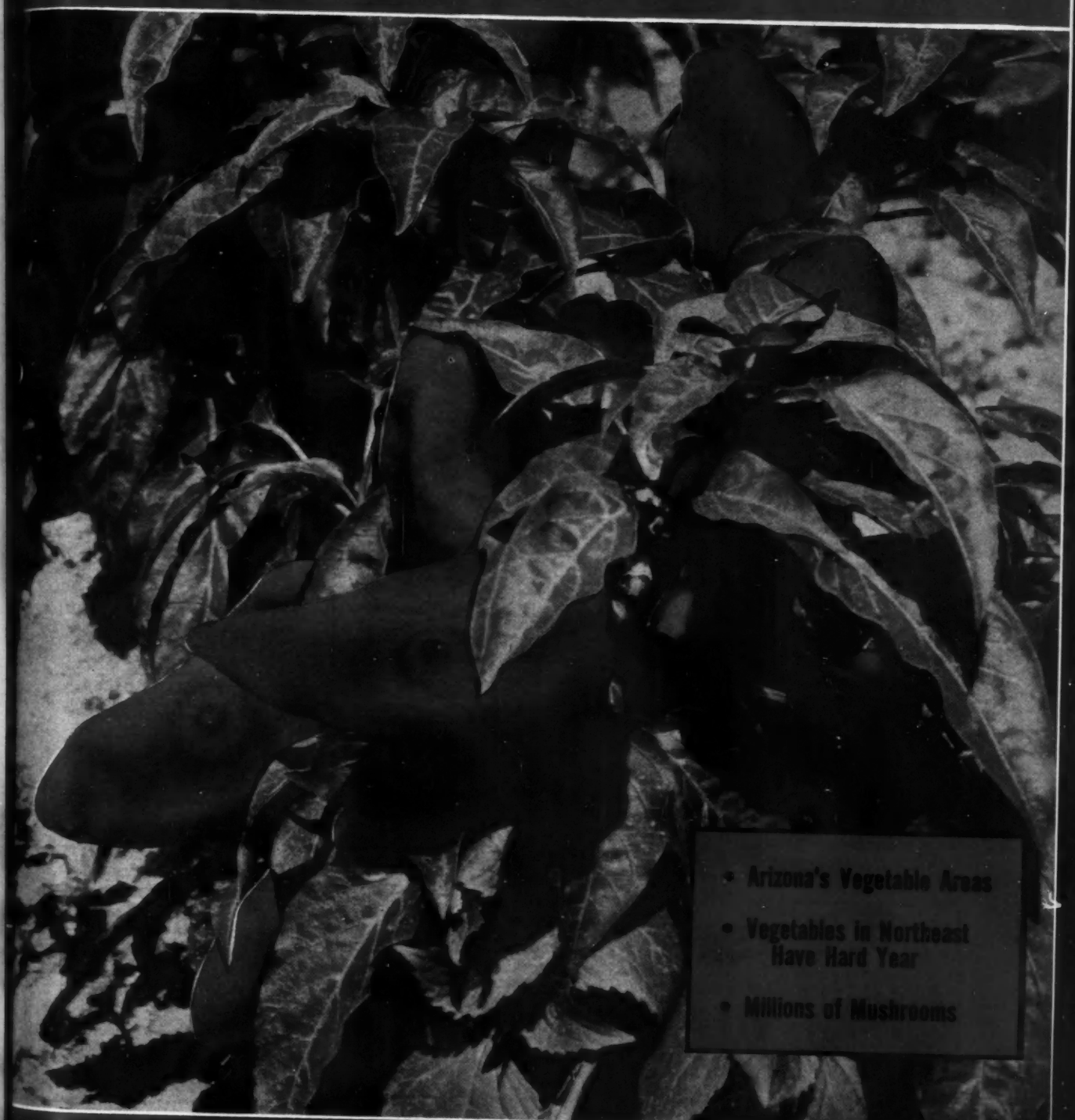
American
Vegetable Grower
NOVEMBER • 1955



- Arizona's Vegetable Areas
- Vegetables in Northeast Have Hard Year
- Millions of Mushrooms

Build A Potato Storage Building

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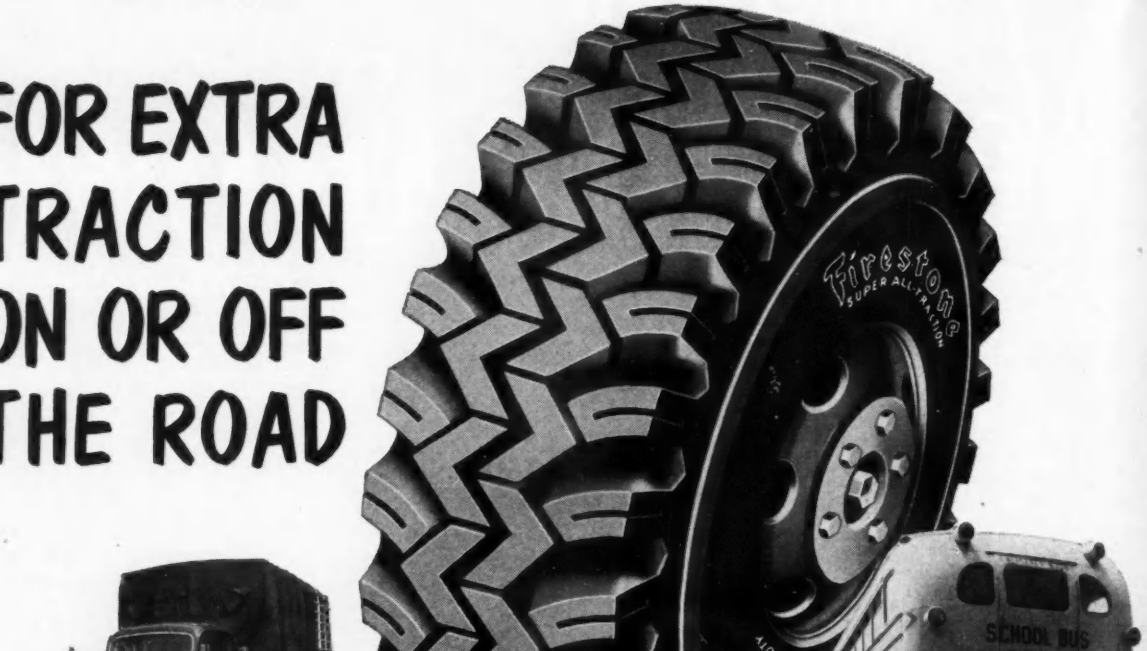

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VEGETABLE GROWER

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AMERICAN VEGETABLE GROWER
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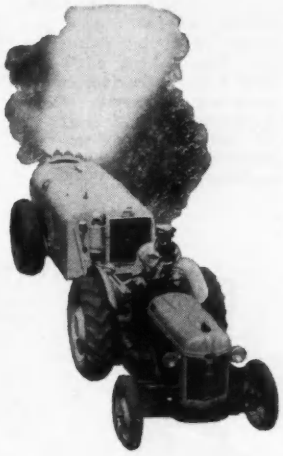
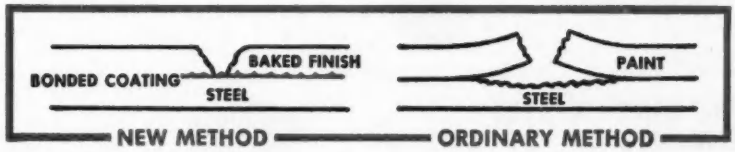
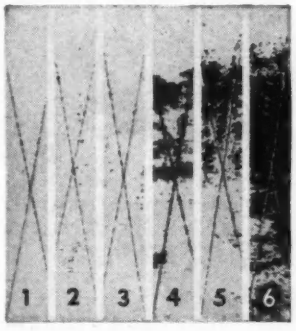
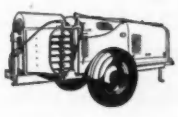


TESTS PROVE LONGER TANK LIFE





The new finish assures longer tank life by eliminating paint peeling and flaking that clog spray nozzles, pumps and strainers. Test panels prove it. Panels 1, 2 and 3 received the new bonded coating; panels 4, 5 and 6 received ordinary treatment. All panels were scratched and immersed in a strong solvent present in many spray mixtures. Result: after several weeks, panels 1, 2 and 3 lost no paint; others were stripped nearly bare.



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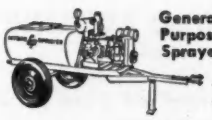

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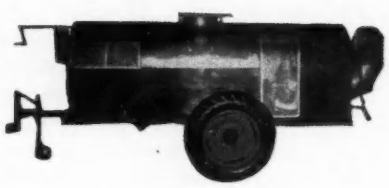

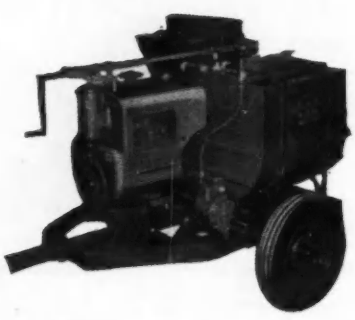

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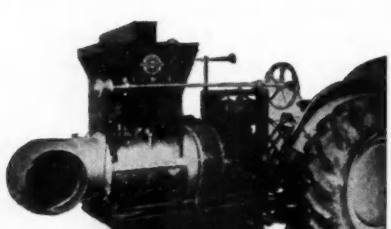

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LETTERS
TO THE EDITOR

Co-operate to Sell

Dear Editor:

I was much impressed with Lloyd Davis' story about the tomato growers near Albany, N. Y., and how they co-operate to sell. Anybody who questions the wiseness of such a procedure has only to visit one of the new supermarkets in his area to see the handwriting on the wall. We have made great strides in producing things—we are now on the verge of advances in distribution, marketing, and selling. New packaging, supermarkets, branding perishables, radio and television, migration of families from city to suburb are forcing great changes in our fruit and vegetable marketing system.

The grower who is not alive to these changes and who does not adjust to meet them, in my humble opinion, will fast find his markets disappearing.

We need more articles along these lines.

St. Louis, Mo. S. A. Euclid

Watch for a story soon to appear about how growers near Anna, Ill., organized "Little Egypt Growers," a co-op to market cucumbers.—Ed.

Artichoke Addict

Dear Editor:

Some time ago you had an article entitled "Gourmet's Delight" which was about artichokes. Since then I haven't seen anything about them and wonder if the artichoke industry is going ahead as your article indicated.

For the benefit of other artichoke addicts, I'd like to tell you how I raise them on a small scale. First, I obtained a good grade of globe seeds and planted them indoors in flats in late winter. When the seedlings were about 2 inches high, I transplanted them to pots. A combination of peat and garden soil worked fine. After all danger of frost was past in the spring, I put the young plants outdoors in a sunny location. They yielded well and before frost this fall I intend to cover each plant with an inverted basket covered with fresh horse manure to protect the tender plants which are not hardy in this locale.

Dighton, Mass. Mrs. A. B. Coyle

Farmland Zoning

Dear Editor:

What is happening to the good, rich, productive farmland of this country? More and more, it is being used for non-agricultural purposes. Instead of planting vegetables, the developers of this country are planting factories and housing developments.

I do not mind industrial development on land that is not good farmland—parts of the south, for example. But why do they build a Levittown in one of the richest potato areas of this country—Nassau County, Long Island? Why do they build factories all over one of the few areas in the country that can grow vegetables nearly all year-long—southern California?

What is needed is some federal or state agency to *zone* the farmlands of our nation. If individual developers have no regard for the soil they are "developing," then it is up to government to legislate that regard. I say, let's zone the good farmland to farmland, and let the developers do their developing somewhere else.

Canton, Ohio B. A. Martin

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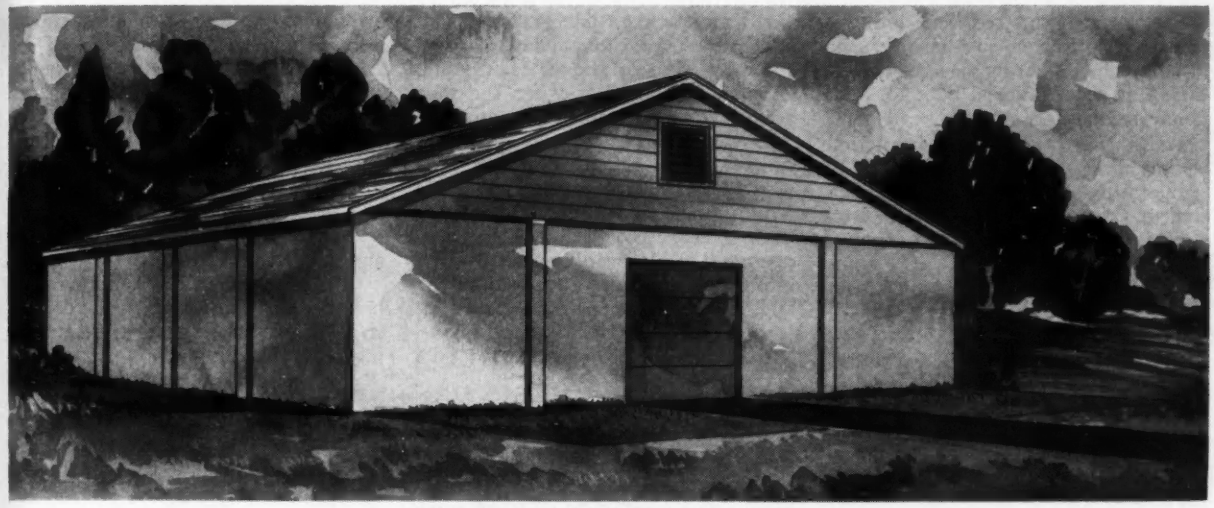


Artist's drawing of 17,500-bushel potato storage.

Build a POTATO STORAGE BUILDING

Latest construction ideas are included in this model storage designed especially for American Vegetable Grower readers

By DONALD COMIN *Ohio Agricultural Experiment Station*

MODERN potato storages are designed to hold the crop for a long period with a minimum of shrinkage and sprouting.

New features include aboveground construction, wall air flues, and floor ducts which double for use as unloading ducts where power conveyors are available. In the more moderate climatic areas of the country, aboveground structures allow more rapid cooling of the potatoes in the fall, easier loading and unloading, and more accurate control of both temperature and humidity. Forced ventilation systems are desirable in most localities, and should provide for circulation of outside air or recirculation of storage air through the potatoes.

At the request of the editors of AMERICAN VEGETABLE GROWER, we have designed a potato storage that incorporates these desired features. With a few changes, it will suit most local conditions and requirements.

This plan utilizes light aggregate building block construction with pilasters of block filled with re-enforced concrete. By changing to heavy aggregate blocks, the plan is suitable for below ground or earth-banked storages. Thus, almost any convenient location could be utilized.

The shape is optional although a square structure was selected to economize on materials, considering the storage capacity obtainable. The addition of several feet in length would provide for loading and unloading under cover as well as a necessary work area and place for heater in case the potatoes are to be conditioned before delivery to a chipper. The size of this addition would depend largely on the extent of the required provisions for handling the potatoes in and out of storage and including any special handling, grading, and processing equipment.

This 50-foot square model storage is designed to hold approximately 17,500 bushels when piled 10 feet deep. This does not allow for any work space or alleys. Approximate bushel capacity for less than full loading may be figured by obtaining the square feet of floor covered by the potatoes, multiplying by the depth of piling in feet and dividing the product by the space occupied per bushel, which is 1.43 cubic feet. The 50-foot width is maximum for unsupported roof spans using any of several types of roof trusses.

Although block construction is used here, wood construction could be used as well. By utilizing light aggregate blocks and filling the cores with a loose-fill or pour insulation and painting to waterproof both sides of the block, a wall with the equivalent of 1 to 1½ inches of corkboard is obtainable. In one operation, a moisture-resistant wall is obtained and the asphalt-coated inside surface provides a water condensing surface to aid in humidity control.

In colder climates, additional insulation would probably be advisable. This would be placed between the 2x6 studs required under such conditions or in the case of an entirely wood structure. This type of construction is based on the fact that the over-all heat movement into or out of a storage is the result of the thickness of the insulation used in both ceiling and walls. Therefore, by increasing the thickness of insulation in the ceiling, the thickness of insulation in

(*Continued on next page*)

the walls may be reduced with no great over-all change in heat gain or loss. Such a shifting has its limitations, but was followed here for economic reasons.

Using 6 or 10 inches of insulation in the ceiling tends to raise its surface temperature and eliminate condensation at this point to zero. The wall surface will then harmlessly receive any condensed moisture, carry some to the earth below or cause it to re-evaporate when the storage air becomes dry.

This aids in automatically controlling and maintaining a high relative humidity (90 per cent) in the storage air. It has the additional feature of allowing frost to collect on the asphalt surface of the wall during extended periods of sub-zero weather, causing no harm and no freezing of the tubers since they are protected by the air space built into the wall. The usual recommendation for potato storage insulation in the North Central states is 3 inches in the walls and 4 inches in the ceiling.

The remainder of the wall construction consists of a wall air passage created by the use of 2x4 studs toggle-bolted to the walls either flat or edgewise (preferable). The air space keeps the potatoes away from the wall and acts as an air circulation passage to the floor flues and ducts when the fans are not in operation. By this means a constant slow gravity movement or recirculation of air is provided which is automatic and tends to smooth out the temperature and humidity throughout the piles of potatoes and air surrounding them.

This feature costs very little, and since it is combined with the forced air system, considerable savings in materials are made. It should also save on power, because much of the time the fans need not operate, as the heat coming from the potatoes will act as a driving force for the gravity air circulation and thus will eliminate any hot spots in and near-freezing air around the piles of tubers.

In this plan canvas flap curtains automatically stop the air from going up these air channels when the fans are on. However, an equally effective stop would be 1x4 boards arranged to stop off the air passages at the top of the 2x4's on the walls. This would require manual operation, or at somewhat greater cost, could be motor-operated to close and open if wired into the fan circuit.

The ceiling is of conventional construction with wood trusses, joists, and ceiling boards or metal to hold the insulation. Although three trusses are shown in this plan, which provides ample space for fan, fan ducts, and damper, a slightly less expensive construction would be the use of wood-trussed rafters on 2-foot centers. They may be constructed easily on the ground from plans available and raised to position with a farm tractor or block and tackle.

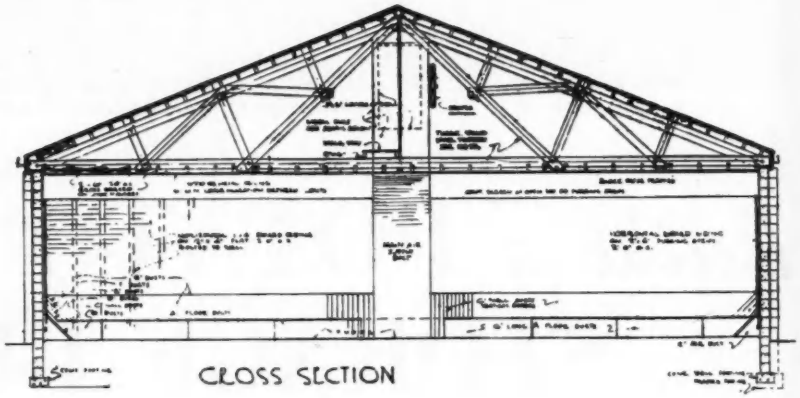
The plan calls for a paper vapor barrier under the insulation. Two by ten joists cost more, but would allow the use of 10 inches of insulation instead of only 6 inches as shown here. If more than 6 inches of insulation is needed, it might better be applied against the walls, using 2x6 studs instead of 2x4's. The pitch of the roof provides nearly 11 feet clearance at the ridge and a useful width of 7 or 8 feet. This allows light storage space and ample room in which to install and service the fan motor and damper.

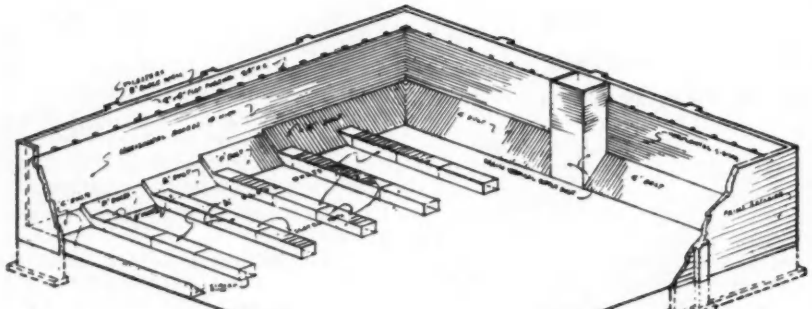
The floor design offers many alternates. One method which is very desirable is to incorporate the ventilating and unloading ducts in the concrete floor. In the plans shown here the flues and ducts have been constructed of wood and may be used with or without a concrete floor. This plan was followed to provide flexibility and to facilitate combining the gravity with the forced air system. It provides for sloping air flues at the walls which facilitate removing the potatoes as they tend to roll down into the floor ducts. Both the ducts and flues are constructed for dismantling and storage at the end of the season. The floor ducts are also constructed with removable plank tops and a minimum of 20 inches in width and 15 inches in depth so that a conventional 16-inch-wide belt conveyor may be used for unloading.

The flues at the wall have been proportioned to assure uniform air delivery throughout. The same is true for the floor ducts, although here the ducts in the middle of the storage (two on each side of the middle) have galvanized metal inserts to restrict their cross section, but are removed before inserting the conveyor belt.

Some growers bin their potatoes,

(*Continued on page* 17)





FOLLOW THESE PLANS WHEN YOU BUILD

A complete set of detailed working drawings for a modern low-cost potato storage, together with a list of materials, is available to readers for $1.50. Send remittance to Plans Department, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

Vegetables Have Hard Year *in* NORTHEAST

Hot weather reduces set on tomatoes, beans, eggplant, peppers, melons; quality of sweet corn, potatoes, cucumbers hurt. Much needs to be learned about weather effects on crops, insects, sprays

By R. T. MEISTER
Editor

THE frustrating experience of trying to cope with Mother Nature's whims this past growing season left many vegetable growers in the drought-stricken and rain-battered northeastern states groggy and groping for answers to the problems created by the unusual weather conditions.

Robert F. Fletcher, Pennsylvania extension vegetable specialist, comments, "All Pennsylvania growers deserve considerable credit for producing the crops they did under difficult circumstances"—a view shared by horticulturists in all the stricken areas.

In an effort to record—for study, analysis, and future action—some of the effects of these unusual weather conditions on yield and quality of vegetables, on soil conditions, and on insect and disease activity, AMERICAN VEGETABLE GROWER obtained from horticultural specialists in the stricken areas special weather and crop reports which are abstracted below.

Mercury Readings—In Massachusetts the spring months were wet and cool; in Connecticut about normal; in New York for the most part above normal with rainfall below normal. July and August temperatures ranged from 80° to 90° F. in Massachusetts up to a searing 100° in New Jersey.

"The higher the temperature, the more aggravated will be the low rainfall situation for the vegetable grower," points out Raymond Sheldrake, Jr., of Cornell University, Ithaca, N.Y. And extreme drought was the costly accompaniment to the high summer temperatures.

The prayed-for rains finally came in August. But their intensity caused floods and erosion. It will cost some growers in central Massachusetts, from $30,000 to $60,000 to bring their farms back to normal during the next three to five years, reports Grant B. Snyder, head of the department of olericulture, University of Massachusetts.

Eight to 15 inches of rain in a 40-hour period flooded some of the larger vegetable farms in the river valleys of Connecticut resulting in a total loss of crops, reports E. C. Minnum, Connecticut vegetable specialist. The three hurricanes which hit New Jersey brought with them 8 to 12 inches of rain in a brief few days, says C. J. Nissley, New Jersey extension specialist.

Early and Late Crops Meet—The unusual weather conditions had a definite effect on maturity, quality, and price of vegetable crops in the northeastern states. The cool, wet spring followed by the hot, dry summer modified normal maturity period of many crops, delaying early plantings and hastening later ones. In Massachusetts the first two to three plantings of corn at week intervals matured within a few days. This same situation held for beans, lettuce, and many other crops.

Wet conditions during part of the planting period resulted in a long harvest season for peas in Pennsylvania, and rain in mid-harvest delayed harvesting operations which resulted in low tenderometer readings. Average yield is expected to be about 2,300 pounds of cleaned shell peas per acre.

During the hot summer temperatures there was little or no set of fruit on such crops as lima beans, snap beans, peppers, eggplants, tomatoes, watermelons, and muskmelons. Temperatures over 80° F. tend to reduce the viability of the pollen and consequently results in poor fertilization and a poor set, comments Grant Snyder.

The same temperature factor affects color of tomatoes, causing degrees of variation from straight sunburn to yellowish red shoulders of the fruit. The red pigment disintegrates at temperatures above 90° F.

Hot, dry weather also fosters tip burn of lettuce, states Snyder, and some Massachusetts growers lost up to 80 per cent of their crop from tip burn.

Reseeding in Connecticut was impossible where irrigation was not available. This is one year, states Minnum, which would have proved that irrigation is almost indispensable on commercial vegetable farms. It was not uncommon to see fields of sweet corn, beans, vine crops, beets and carrots badly wilted during the middle of the day.

In New York corn tasseled and silked while rolled up tight. The sweet corn crop in Pennsylvania will probably go down in the records as the poorest in over a decade. While total yields are not appreciably reduced, potatoes in New York are misshapen and second growth tubers prevail. Strawberries in New York were practically a complete flop.

Pennsylvania growers with a one- or two-crop program suffered more than the diversified grower; however, some growers with irrigation were able to grow satisfactory yields with certain crops.

The indicated 1955 yield per acre for snap beans in the Keystone state will probably go below the 10-year average. Most lima bean acreage had three different sets, causing a quality problem at harvest time. Average yield may drop to 1,000 pounds per acre.

Some crops escaped or withstood the extreme heat. Asparagus growers in New Jersey, marketing their crop from 27,000 acres, made out better than in the past few years. Most of them were finished harvesting by the third week of June.

As would be expected, it has been an excellent melon year, points out Sheldrake of New York. Melons came in earlier than usual and the plants were not plagued with the usual foliage diseases.

In New Jersey, peppers seemed to stand the hot, dry weather better than any other crop, and sweet corn, cucumbers, melons, and especially

(*Continued on page* 12)

VEGETABLE AREAS OF AMERICA

ARIZONA

By LELAND BURKHART

University of Arizona

This is the fourth of a series on the important vegetable areas in the United States. New Jersey, Florida, and Eastern Virginia were covered in the first three articles.—*Ed.*

ARIZONA'S vegetable industry, which has an approximate shipping point value of $50 million per year, is closely related to the shift in the American diet to lower calories and more salads. The increase of 70 pounds in the per capita consumption of fresh vegetables during the last 30 years is headed by lettuce, the nation's most popular salad item.

Lettuce accounts for more than one-half of Arizona's vegetable industry, and this crop is grown principally in the Salt River Valley and Yuma areas. Cantaloups are an important second commodity and are grown principally in the Yuma area, which is the leading cantaloup-producing area for the Southwest. Cantaloups, honeydew melons, and watermelons are also important in the Salt River Valley and Yuma areas. Potatoes, cauliflower, and broccoli are shipped from the Salt River Valley.

Arizona's vegetable production is largely concentrated in 100,000 acres in the Salt River Valley (Phoenix district) and the lower Colorado River Valley (Yuma district). Arizona ranks among the four leading states which produce fresh vegetables with the highest shipping point value. The continued growth of the important lettuce industry is due largely to the growing of improved varieties and strains of the "Iceberg" type of lettuce. In recent years Great Lakes strains of lettuce have been replacing the formerly popular Imperial strains. Arizona's lettuce is shipped throughout the nation from November to May.

The handling of lettuce has been revolutionized by vacuum cooling coupled with the use of fiberboard containers. Costs have been cut about 25 percent as a result. Arizona growers were the first to vacuum cool entire carlots of lettuce in one operation.

The annual shipping point value of Arizona melons is approximately $15 million. Cantaloup production is increasing especially in the Yuma area due to decreasing production in the Imperial Valley of California.

Cantaloups are a $10 million crop in Yuma area. Popular variety is Powdery Mildew strain No. 45, developed by USDA.

The Yuma area is today the leading cantaloup producing area for the Southwest. The popular variety is the Powdery Mildew Resistant strain, No. 45, developed by the USDA.

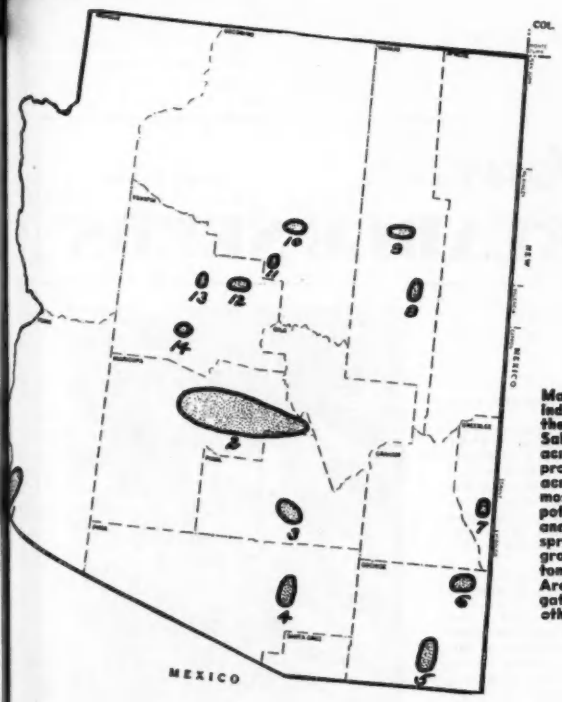
The superior cantaloup growing conditions in the Yuma area are related to the high light intensity and availability of water from the Colorado River for irrigation. Yuma cantaloups are shipped throughout the nation during late May and June. Salt River Valley cantaloups are shipped during the month of July. Watermelons are produced chiefly in the Salt River Valley and Yuma areas, and the principal varieties are Peacock and the Klondike.

Carrot acreage is localized in two principal districts, the Salt River Valley and the Yuma area. An important potential carrot producing area is the lower Gila Valley, northeast of Yuma. Carrot harvesting begins in November. Most of the Yuma area shipments are made from January through April. The Phoenix area follows with heavy shipments in May and early June.

The commercial carrot variety is the large-type Imperator. The deep orange color of Arizona carrots is indicative of high vitamin A content. The handling of carrots during the last few years has changed markedly due to prepackaging. Topped carrots are frequently shipped in mesh bags and then packed in film packages at terminal markets.

Potatoes are grown chiefly in the lower elevations, and are harvested and shipped as early potatoes during June and July. The annual value of Arizona's potato crop reached an all-time high of nearly $4 million.

Left—Lettuce is Arizona's big crop. It accounts for more than 50 per cent of the fresh vegetables produced, is valued at $25 million and goes to market primarily in fiberboard containers. Over two-thirds of lettuce crop is Great Lakes variety.



Major portion of Arizona's vegetable industry is concentrated in Area 1, the Yuma district, and Area 2, the Salt River Valley. About 35,000 acres of vegetables and melons are produced annually in Area 1; 50,000 acres in Area 2 where lettuce is most important. Areas 3 and 4 grow potatoes, carrots, lettuce, melons, and miscellaneous vegetables for spring marketing. Areas 5 and 6 grow summer crops of chili peppers, tomatoes, onions, and carrots. In Areas 7 to 14—small, localized, irrigated valleys at higher elevations—other summer vegetables are grown.

Expanding lettuce seed producing industry in Yuma area is contributing to greater diversification.

Arizona's 5,000 acres of potatoes are largely in Maricopa County, especially in the Queen Creek district. Maricopa County's early potato average yield of 440 bushels per acre is one of the highest in the nation. Most of the potatoes now grown are the popular red-skinned varieties, Red Pontiac and Bliss Triumph.

There is a trend to full mechanization and bulk handling of potatoes. In this trend it is recognized that there must be minimum bruising throughout the handling phases since these new potatoes are rather thin-skinned.

Cabbage varieties grown in the Salt River Valley are Golden Acre, Round Dutch and Copenhagen. Broccoli strains are De Cicco—early and medium. The cauliflower variety is Snowball which is planted in late August.

Celery growing is an extremely specialized industry, with only a few growers. The high quality Tall Utah variety remains green when ready for harvest in February and March. Onions are classified into green bunching, consisting of several varieties, and bulb, which are predominantly the Excel variety developed in Texas. Garlic growing is another highly specialized industry.

Other fresh vegetables shipped out by Arizona growers include cucumbers, greens, radishes, sweet corn, squash, sweetpotatoes, table beets, tomatoes, and turnips. With the trend toward shipping more Arizona vegetables by truck, there is a greater potential for diversification in vegetable growing and shipping.

The increasing importance of the vegetable growing and shipping industry in Arizona has brought about the need for an expanded vegetable research program by the University of Arizona.

The first certified lettuce seed in the nation was developed in recent years by the university. Promising strains of Great Lakes lettuce have been developed. More effective fertilizer practices with particular reference to nitrogen requirements of lettuce have resulted in greater efficiency of production. Fan pre-

(*Continued on page* 19)

STATE NEWS

- **Wisconsin Introduces Two New Potato Varieties**
- **Indiana Veg. Growers to Hold Sectional Meetings in 1956**

OHIO JUDGING CHAMPS

The 4-H vegetable judging, grading, and identification contest at the Ohio State Fair was won by the Lorain County team. Left to right: Edwin Leonard, Aris Varoub, and Thomas Wearsch, with William Tedrick, Lorain County associate agent. Tedrick and Carl Deeds, of the Greenhouse Vegetable Packing Co. in Berea, coached the boys. The team will represent Ohio in the National Junior Vegetable Growers contest in New Orleans next month.

Yambilee King, Queen

LOUISIANA—The 10th annual Louisiana Yambilee in Opelousas last month was highlighted by the selection of a new Yambilee Queen and King. Crowned queen was Kay Sellers, chosen from a field of 30 Louisiana beauties.

Chosen king was Bernard Trappey, of New Iberia, a pioneer and large-volume sweetpotato canner and grower. A member of the Louisiana Sweet Potato Commission, Trappey began canning yams in 1920. The Yambilee King is traditionally a leader in the Louisiana sweetpotato industry.

Another industry leader concealed under the papier-mache mask of Mr. Yam was unveiled as A. J. Dupuis, Jr., who with his brothers, Steve and B.D., operates a large yam-shipping firm in Opelousas.

Seedsman Dies

NORTH DAKOTA—Dr. George F. Will, president of Oscar H. Will and Co., prominent seed and nursery company of Bismarck, died October 2 at the age of 70.

Dr. Will was a keen student of archeology and the history of the Northern Great Plains Indian tribes. His friendship with the chiefs of these agricultural Indians led to the acquisition by the seed house of early, hardy varieties of corn, pumpkins, squash, watermelons, and field beans, including the original strains of "Great Northern" and Hidatsa."—*J. H. Schultz, head, Dept. of Hort., Fargo.*

Two New Potatoes

WISCONSIN—Two new potato varieties had their first public showing at the University of Wisconsin's Farm Field Day at Madison, October 14. The new potatoes—one white, the other red-skinned—have been named Antigo and Red Beauty.

Antigo, a scab-resistant potato, is a medium early variety. In yield, it is about average, going around 247 bushels of U.S. No. 1 potatoes per acre in tests at several experiment stations. It also has a good dry matter content—an indication of cooking quality. For scab resistance, Antigo is better than Russet Burbank, which is considered tolerant. This high scab resistance is important because the disease has become so bad in some areas that potatoes can't be marketed profitably. Antigo tubers are white and uniform in size, with an attractive shape and tough skin. They separate easily from the vine, making this a good variety for mechanical harvesting.

The other variety, **Red Beauty,** looks like a better potato than older red varieties. The tubers are smoother, and have a better shape and color with only a few shallow eyes.

Sectional Meetings

INDIANA—The Indiana Vegetable Growers Association will hold sectional meetings in 1956, in co-operation with the department of horticulture at Purdue University.

In northern Indiana a two-day school will be held for muck crop growers. At Indianapolis a truck crop school will be held. The greenhouse growers will meet at Lafayette, and the melon growers at Vincennes. By dividing the groups and intensifying the educational program, the association hopes to render more assistance to growers.—*F. C. Gaylord, Sec'y, W. Lafayette.*

Nemagold Sweetpotato

MARYLAND—In the two years since the introduction of the Nemagold sweetpotato, acreage of this variety has expanded tremendously and is rapidly replacing Maryland Golden as this state's variety leader. Nemagold also promises to increase Maryland's lead in the yield per acre of sweetpotatoes.—*A. A. Duncan, Ext. Veg. Specialist, College Park.*

Know Your . . . VEGETABLE SEEDS

By VICTOR R. BOSWELL
U. S. Department of Agriculture

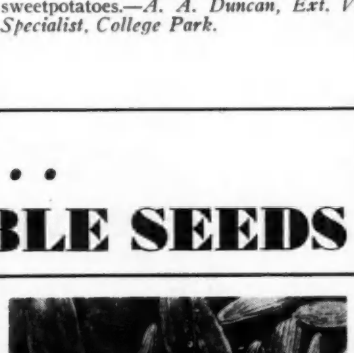
LETTUCE

THE "seed" of lettuce is a tiny and very simple fruit called an achene.

Lettuce seed acreage has varied from about 3,300 acres annually during 1947-51 to about 2,300 to 2,500 acres in 1953-54. Production has varied from nearly a million pounds annually in 1947-51 to about 600,000 pounds in 1952. An acre of seed lettuce produces enough seed to plant 75 to 100 acres by field sowing. California and Idaho are the principal lettuce seed producers in this country.

Seed of some varieties of lettuce is highly "temperamental." The seed may germinate very slowly in warm soil because of dormancy induced by high temperature. The temperatures under which the seed develops and matures, the storage conditions of the seed, and the soil temperature after planting all may affect the promptness of germination. Breeders are attempting to breed out of new varieties and strains this tendency of lettuce seed to become dormant.

If seed of a light-sensitive variety is allowed to take up water, as under conditions for germination, but is kept warm and dark, it fails to sprout. A few minutes of exposure of the soaked seed to red light or to daylight is enough to set germination in motion. This may explain why under some conditions poorly covered seed may germinate better than uniformly well-covered seed. The effect of exposure to red light can be nullified by promptly exposing the seed for a few minutes to "far red" light.



Lettuce seed is relatively short-lived, deteriorating rapidly when stored at high or even moderate humidity in a warm place. Do not depend on "left over" seed from the preceding year's supply without a germination test to assure that it is good.

New Vegetable Specialist

OHIO—Ed Drollinger, a 1952 graduate from Ohio State University's department of horticulture, has been appointed extension vegetable specialist. He fills the post left vacant when V. E. Keirns resigned to become manager of the Ohio Potato Growers Association. Ed is the son of Cleveland greenhouse growers Mr. and Mrs. Ed Drollinger, Sr. He has had a lot of practical vegetable experience, and expects to complete requirements soon for his master's degree.—*E. C. Wittmeyere, Sec'y, Columbus.*

Potato Day

MINNESOTA—Potato Day at Williams October 8 was a big event for the town of 415 people. A fine parade of floats portraying phases of the potato industry started the day. Sandra Giese was selected to be the potato queen.

In the potato show Monroe Brown was named top showman with a beautiful 20-tuber display of Russet Burbank. Brown also took the top award in the Chippewa class. Top winners in other classes were as follows: Irish cobbler, Kennebec, and Redkote, C. R. O. Sorrels and Sons; Bliss Triumph, John Knutson; Waseca, Ernest Carlson and Son; Pontiac, Allie Rebarcheck, and Cherokee, Gerry Piepper.

C. R. O. "Blackie" Sorrels, of the famous Lake of the Woods foundation seed area, did a fine job of arranging the potato day.

Growers who viewed the Hollandale onion plots rated the varieties as they saw them at harvest. In every case the hybrids were rated higher than open-pollinated onions such as Early Yellow Globe, Brigham Yellow Globe, and Downing Yellow Globe.

A prominent Red River Valley seed potato grower, Norman A. Bogestad, died last month at the age of 56. The Donaldson farmer was a good grower and co-operated with the University of Minnesota in testing new potato varieties and methods. —*O. C. Turnquist, Sec'y, St. Paul.*

Short Course Planned

PENNSYLVANIA—The Pennsylvania Vegetable Growers Association is planning a two-day short course early in January at Pennsylvania State University.

James Hutchison, Luzerne County agent for 34 years, retired October 1. A testimonial dinner honoring him was held in Wilkes-Barre. — *Jim Garrahan, Sec'y, Kingston.*

Celery Essay Contest Winner

MICHIGAN—Winner of a one-year scholarship to Michigan State University in a contest sponsored by the Michigan Celery Promotion Association is Terrence Peckham, 18, of Luke City. Terrence wrote the best essay on "Why I Think Michigan Pascal Celery is a Good Michigan Crop." He began his freshman year in the College of Agriculture this fall.—*Howard Trapp, Sec'y, Beulah.*

New Onion for South

TEXAS—A new crystal-wax-type onion has been developed at the Texas Experiment Station, in co-operation with the USDA, and has been named Early Crystal 281. It matures about 10 days before Eclipse, and has considerable resistance to pink rot. It is less subject to splitting and bolting, but yields so far have run less than Eclipse. The new variety will probably be grown mainly for the early market, with Eclipse or a similar variety still the main crop in the South.

Officers and directors of VGAA photographed at 1954 Convention in Syracuse. Seated (left to right) Joseph Shelly, secretary; A. Lee Towson, Jr., past president; James Swan, Jr., president; Paul Ruetenik, 1st vice-president; Ellis Hoag, vice-president of greenhouse section. Standing (left to right) Leicester Aldo, director; John Wickham, general truck crops section v.-p.; Harold Evans, potato section v.-p.; George Tallman, director; Walter Pretzer, director of organization; Elmer J. Stell, treasurer; and Robert A. Esty, director.

It's Washington for . . .

VGAA ANNUAL CONVENTION

A topnotch program is in store for you including a trip to USDA's Research Center at Beltsville, Md.

By JOSEPH S. SHELLY
Secretary
Vegetable Growers Association of America

VEGETABLE growers will be coming from all directions for the 47th annual convention of the Vegetable Growers Association of America December 5-8 in the nation's capital. The beautiful and quiet uptown Sheraton-Park hotel will be the site of the convention.

The four-day program will feature Secretary of Agriculture Ezra Taft Benson, assistant secretary Earl Butz, and Dr. Kenneth Naden, agricultural counsel for the National Association of Food Chains. Specialists from the USDA Beltsville Research Center, state universities, and industry will discuss current problems of the vegetable industry.

Watch for the detailed program of the convention which will appear in our December Convention Issue.

A field trip to the Research Center at Beltsville and the University of Maryland will be a highlight of the program.

Eight state vegetable queens will be competing for the coveted title of National Vegetable Queen. Eight state universities have entered vegetable judging teams in the Inter-Collegiate Vegetable Judging Contest being held for the first time at a VGAA convention.

Convention registrants this year will have the opportunity of winning a free, all-expense trip for two to Miami Beach, Fla. The drawing and announcement of the winner will be made at the annual banquet which will close the convention.

The ladies have by no means been forgotten. Sightseeing, shopping tours, and a tea will be part of their activities. Special points of interest will be arranged for them on the tour to Beltsville.

For those who wish to stay on in Washington after the convention, there are many sightseeing points of interest.

If you have not yet made plans to attend this, the only national vegetable growers' meeting of its kind, do so now. Further details and information may be secured by writing Joseph S. Shelly, Secretary, Vegetable Growers Association of America, 528 Mills Bldg., Washington 6, D.C.

VEGETABLE PROMOTION

MORE money is spent to advertise lettuce than any other vegetable, a recent survey shows. The estimated appropriations for promotion purposes by the important vegetable organizations are as follows: Lettuce, Inc., $400,000; Red River Valley Potato Growers Association, $50,000; Idaho Advertising Commission (includes fruit advertising), $225,000; Maine Potato Commission, $200,000.

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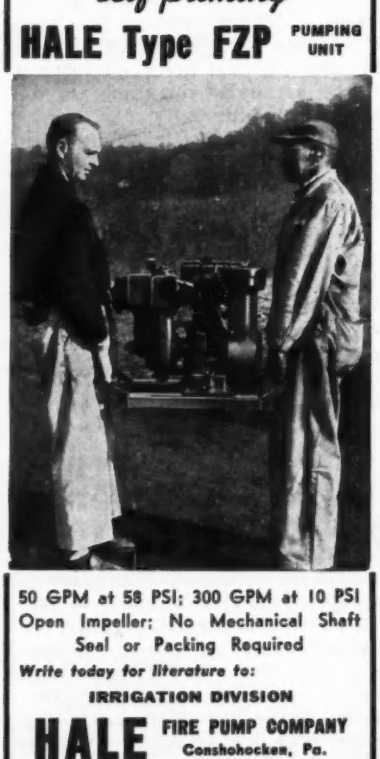

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VEGETABLES IN NORTHEAST

(*Continued from page 7*)

those grown under irrigation produced a fair crop.

"Dry weather doesn't usually hurt our growers in the production of high quality and high yields," reports Nissley. "The majority of New Jersey vegetable growers are equipped with irrigation, both the permanent and movable types. However, in 1955 the extreme heat experienced over an 18-day period was really the cause of low yield and low quality."

The rains which finally came caused excessive cracking of tomatoes already badly damaged by blossom end rot. "It was reported around September 1," states Sheldrake of New York, "that the average load of tomatoes at the cannery was running 40 per cent U.S. No. 1." Tomato yields in Pennsylvania were expected to go as low as 3 tons per acre—the lowest in 20 years.

The tomato crop in many New Jersey areas was a failure; in other areas in the Garden state growers had as high as 10 to 14 tons per acre. The secret to this phenomenon was well-drained land in good physical condition.

Estimated loss in snap beans not harvested and loss in grade for the crop that could be picked when the second hurricane struck Potter County, Pennsylvania. is $400,000—heaviest ever suffered by area.

Soil and Pest Conditions—The wet, cool spring in Massachusetts upset the action of certain recommended practices in the use of herbicides such as premerge, reports Grant Snyder. Excessive leaching of nitrogen also occurred and growers on lighter soils had to top dress in heavier amounts and more frequently than usual.

The wet planting conditions also caused a weed problem in Pennsylvania pea fields. At harvesttime cutting, loading, and hauling weeds proved a costly operation.

The heat of July and August materially reduced the normal activity of many insects and diseases, particularly late blight on celery, tomatoes, and potatoes in Massachusetts. On the other hand, it modified the normal cycle of corn ear worm in that state, where the second brood in late August was more severe than usual. A common complaint of many Massachusetts growers was that spray formulations which normally gave good control were ineffective.

In Connecticut late blight on tomatoes was not a factor although early blight, for which sprays ordinarily are not required, was very common. Due to lack of proper spraying many tomatoes showed anthracnose in late August and September. Scab on cucumbers showed up in many sprayed fields and yellows appeared on cabbage. Downy mildew has been severe on vine crops since September 1.

Much to Learn—Reports are that fall crops are faring much better, both quality- and price-wise. The fact remains, however, that we still have much to learn in order to produce a maximum crop of top quality at a low unit cost.

This is a chemical age, points out Grant Snyder, and the rather complex formulations of materials, used as nutrients, fungicides, insecticides, herbicides, growth regulators, etc., apparently vary quite radically under differing weather conditions.

In view of the fighting spirit of the typical vegetable grower, the prospects for solving some of the perplexing problems are bright. "They (the growers)," says Nissley, "are all gamblers and are making plans now for next year's operations, when they hope to regain losses sustained this year." THE END

CONNECTICUT GROWERS ARE INTRODUCED TO NEW VARIETIES

When members of the Bridgeport (Conn.) Growers Association met at the Eastern Breeding Station of Associated Seed Growers, Inc., in Orange, Conn., they were treated to a first-hand look at trial plots of Asgrow vegetables, and then to a buffet dinner of barbecued beef. Joe Steinke (back to camera), manager of the station, discusses radish varieties on trial in plot above. Joe conducted the meeting at which Dr. Ed Minnum, extension specialist with the University of Connecticut, and Dr. G. W. Scott, Asgrow director of extension, spoke to the Bridgeport growers. This group is one of the most active growers' groups in New England.

Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a three-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

BLEACHING CAULIFLOWER

What is the best way to bleach cauliflower? I have been tying the leaves over the heads but they are still not white.—Ohio.

The heads should be tied when small, the size of a half-dollar. Hot weather or late tying may be the cause of poor head color.

HEATING THE PLASTIC GREENHOUSE

Could you tell me how to go about getting a fuel supply at a price I can afford to pay in heating a plastic greenhouse?—Maryland.

Dr. E. M. Emmert of the University of Kentucky who developed the plastic greenhouse idea, has the following comments about heating the plastic greenhouse: "We get our propane at 3.8 cents a pound. A house 18x84 feet with a double layer and the heat circulated by a blower will require only one 50,000 B.T.U. burner. This takes about 2 pounds an hour and costs us about 7.6 cents per hour, or about $1.50 a day when burning continuously. On the average it costs us about $1 a day in the winter.

I use a finn-type hot-water heater with a boiler. We get coal for $6.50 a ton. This costs us about 50 cents a day, or one-third as much. However, we have coal and ashes to handle and a big overhead. When a blower is not used in an 18x84-foot house, with the gas heaters, it takes two 50,000 B.T.U. burners to get even distribution and many more B.T.U.'s are used.

"If several houses are to be heated, the finn hot-water system is the cheapest and best. If one or two houses are to be heated, gas is much the handiest and not too much more expensive if labor costs are counted. If ventilation is done properly, some stimulation from CO_2 may be expected. If not ventilated properly, some damage may result. It seems good to have some ridge vents with gas-heated houses so ventilation in the winter may be done without drafts on the plants."

WATERMELON SEED HARVESTER

Do you know where I could obtain a watermelon seed harvesting machine in which ripe melons are placed and shredded and separated from the seeds?—Texas.

Our search has failed to come up with a commercial manufacturer of a seed harvesting machine although we have found some seedsmen who have had these machines built for their own use.

HORSERADISH PROBLEM

What can I do to prevent black spots in my horseradish and what causes hollow roots?—Illinois.

It is hard to determine the cause of black spots without seeing the plants. We suggest that our reader send plants showing these symptoms to Dr. M. B. Linn, Department of Plant Pathology, University of Illinois, Urbana, Ill. Hollow roots develop in certain varieties of horseradish when conditions are favorable for rapid growth. Perhaps it would be a good idea to try another variety.

OLD VARIETY

We used to have white Cushaw longneck pumpkins (not green striped but all white). Could you tell me where I can buy seed?—New Jersey.

The white Cushaw long-neck pumpkin, sometimes called squash, is available from Burpee Seed Co., Philadelphia 32, Pa., under the name "Golden Cushaw."

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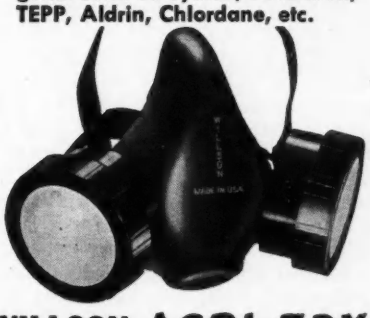

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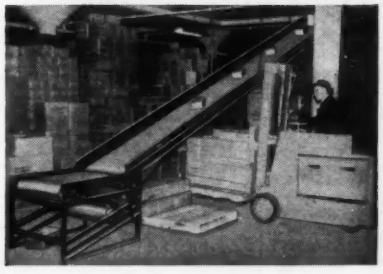

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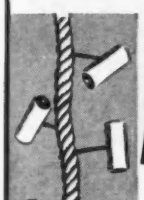

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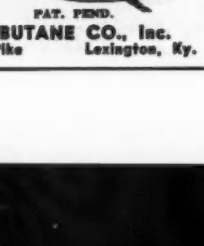

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MILLIONS OF MUSHROOMS

Harvesting is a 365-day job for Massachusetts mushroom growers

By CHARLES L. STRATTON

MUSHROOM growing is big business with Snowcap Mushrooms, Inc., Woburn, Mass. It's a ticklish crop to raise and a good 10-week season in an average 800-tray house is considered to be 4,000 three-pound baskets.

Mushrooms are unique in that they require growing conditions entirely different from other crops. Four cement block houses and an older wooden building are used to grow Snowcap mushrooms. Three houses are kept operating throughout the year while two more are being readied for production. The houses measure 30 x 100 feet, contain 12 inches of insulating sawdust between ceiling and the dead air space above. The roof is aluminum. The mushrooms grow in 30 x 36-inch trays in tiers, with some 816 trays to the building.

Controlled Temperature

Mushrooms are grown in pitch blackness in a temperature of 58° to 62°. When the temperature goes over 62°, control is lost and the mushrooms go soft. It takes a miner's lamp, expert timing, and a seven-day week to pick this crop. One day's delay in picking cuts the market value in half.

Snowcap assistant foreman Joseph Brogna, who has been handling mushrooms for over a dozen years, claims an expert can tell when a mushroom is ready to pick by the shape and the size. When the head is small and the stem is straight, growing has stopped and it is ready to pick. A mushroom with a stem that is fat on the bottom is left for a later picking.

Mushrooms are individually picked with a deft twist to avoid taking the root, dirt or spawn. Packing is according to one of three grades in 3-pound baskets. Top grade is the fancy, then the button, and the open or mixed. The buttons are small mushrooms, while the opens are the mushrooms that were picked a day late and split open. Mushrooms are shipped out immediately after picking to the commission house for rerouting to local stores.

Much horse manure bought from racetracks goes into the growing of these mushrooms. Brogna claims it requires about four weeks to properly

Joseph Brogna is shown picking mushrooms for market. It takes skill to tell when a mushroom is full grown. Picking a day late decreases their market value by one-half as they split open.

cure manure for a single house. The 36 cords of manure required for one house costs approximately $400. It is piled on a concrete apron where it is left to heat for six days before it is turned. Cooking will not result in daily turning.

After five turnings—six days apart—the manure turns black, then it is forked into the wooden trays used in mushroom growing, leveled and moved along a track directly through a port into one of the smaller 20 x 60-foot cooking houses. Wooden double deckers are used and the air temperature is brought up to 136° while bench temperature is increased to 142°. Trays remain here for five days and if the temperature doesn't get up to the required degree, live steam is used. After this period of cooking, the heat is removed and the tray temperature is reduced to a uniform 85°.

Grown from Spawn

Mushroom spawn is purchased from laboratories in quart containers. A few handfuls are sprinkled over each tray, the spawn moving in all directions throughout the manure. Watering is mighty important and it is carried out frequently with garden hose.

Trays are set up in the growing houses in tiered rows and ¾-inch of loam is sprinkled over the top. Fourteen days after planting, pinheads start to show. After the 21st day the first "break" or crop of mushrooms over an entire house is experienced and mushrooms are picked for about five days. The breaks came in waves. Watering is carried on continuously and the loam is tested as the water

CALENDAR OF COMING MEETINGS AND EXHIBITS

Nov. 1-3—Florida State Horticultural Society 67th annual meeting, Fort Harrison Hotel, Clearwater.—Ernest L. Spencer, Sec'y, Bradenton.

Nov. 2-3—Wisconsin State Potato Show, Antigo High School Gym and Civic Center, Antigo.—Harold R. Simons, Exec. Sec'y, Fidelity Bank Bldg., Antigo.

Nov. 8—Greenhouse Section meeting, Indiana State Vegetable Growers Association, Horticultural Bldg., Purdue University, Lafayette.—F. C. Gaylord, Sec'y, Dept. of Hort., Lafayette.

Nov. 16-18—Western Growers Association convention, Westward Ho Hotel, Phoenix, Ariz. Association headquarters: 606 S. Hill St., Los Angeles 14, Calif.

No. 29—Southern Minnesota Vegetable Growers Association annual meeting, Albert Lea.—Juel B. Nelson, Sec'y, Albert Lea.

Nov. 29-30—Illinois State Vegetable Growers Association annual meeting, Des Plaines.—Arthur Selme, Sec'y, R. 2, Rock Falls.

Dec. 1-2—Iowa State Vegetable Growers' Association 42nd annual convention, Hotel Hanford, Mason City.—C. L. Finch, Sec'y, Ames.

Dec. 1-2—Kansas State Horticultural Society annual meeting, Kansas State College, Manhattan.—W. G. Amstein, Sec'y, Manhattan.

Dec. 5-8—Vegetable Growers Association of America 47th annual convention, Sheraton-Park Hotel, Washington, D. C.—Joseph S. Shelly, Sec'y, 528 Mills Bldg., Washington 6, D. C.

Dec. 11-15—National Junior Vegetable Growers Association, 21st annual convention, Jung Hotel, New Orleans, La.—Prof. Grant B. Snyder, 103 French Hall, U. of Massachusetts, Amherst.

Jan. 12, 1956—Maryland Vegetable Growers Association meeting, Lord Baltimore Hotel, Baltimore.—Francis C. Stark, Jr., Sec'y, College Park.

Jan. 30-Feb. 2, 1956—United Fresh Fruit and Vegetable Association annual meeting, Hotel Roosevelt, New Orleans, La. Association headquarters: 777 14th St., N. W., Washington, D.C.

Feb. 13-15—Ohio Vegetable and Potato Growers Association 41st annual meeting, Hotel Cleveland, Cleveland.—E. C. Wittmeyer, Sec'y, Horticultural Bldg., Columbus 10.

Mar. 8-10—Watermelon Growers and Distributors Association annual convention, Roosevelt Hotel, New Orleans.—J. J. Parrish, Sec'y, Adel, Ga.

Mar. 19-20—Kern County Potato Growers Association 12th annual convention, Bakersfield Inn, Bakersfield, Calif.—Francis P. Pusateri, Exec. Sec'y, Bakersfield.

must work throughout the tray. After six breaks in one house over a 10-week period, the spawn loses potency and everything is thrown out except the trays. The loam is sold to home gardeners, and new manure is cured for the trays.

Oddly enough, mushroom growing is more expensive in summer than winter. Hot water keeps the buildings at the correct temperature in winter; in summer the buildings must be cooled. Miner's lights are used while working in the pitch-black buildings.

Precautions must be taken to avoid disease. Once a tray becomes infected, mushroom flies will spread the disease throughout the building and the crop dies out. The building and trays are thoroughly washed and treated with a special disinfectant after each 10-week period.

Cleanliness is stressed throughout the entire operation at Snowcap Mushrooms. Manure is handled only on the cement apron made especially for the purpose. All equipment is kept clean and in its place. This mushroom growing plant is open to visitors every day of the year as the crop must be harvested daily. THE END

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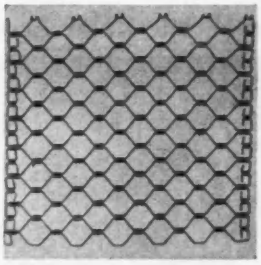

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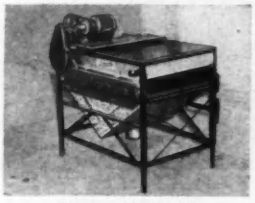

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Get higher prices, bigger yield and longer season from your early tomato acreage with this outstanding new Burpee Hybrid.

Top the early market with big, smooth, round, scarlet fruits of main-crop size. They average about ½ lb. each over entire season. Thick walls, deep red interior, firm slicer, delicious flavor. Get premium prices per lb., more tonnage per acre.

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NEW FOR YOU

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Over-The-Road Economy

New trucks are beginning to get as eye-appealing as new cars. A new truck that took our eye is the one pictured above. However, eye appeal isn't all these new beauties have. New 140 h.p. engines, cab comfort, rugged construction, and sound engineering make this new line of S trucks ideal for the vegetable grower. Why not have the full description and specifications on them? Just write to International Harvester Company, 180 N. Michigan Ave., Chicago 1, Ill. A postcard will do the job.

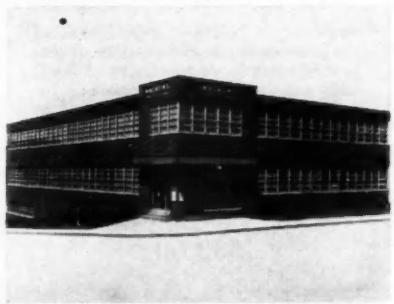
Tractor Tire Know-How

Many growers are failing to get the full wear and traction from their tractor tires. Either under-inflation or over-inflation is the biggest cause of tractor tire failure. Our friends at the Firestone Tire & Rubber Company have made available to our readers, free of charge, the new worthwhile tractor gauge pictured above. It's simple to use and you can get yours by merely going to your nearest Firestone dealer or store and pointing out that you are a reader of AMERICAN VEGETABLE GROWER.

Perimeter Heating

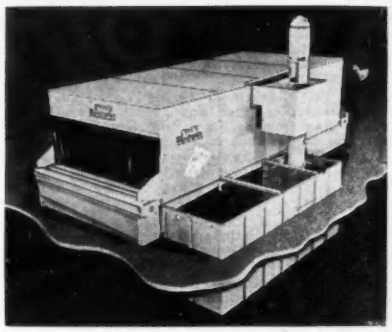
Greenhouse growers know that the best way to heat a greenhouse is evenly from the sides. Studies by agricultural universities show that this method of heating is more efficient and economical. Now all greenhouse growers can have this system at low cost. The White perimeter heating system is thermostatically controlled—heats under the benches in the corners and through the hotbeds. Why not get a set of free plans? All you have to do is write to Dept. 1B, L. B. White Co., Onalaska, Wis.

Bigger and Better



I want to tell you about the splendid new plant one of our conveyor friends has just completed. The new plant means better and less expensive conveyors for all vegetable growers. The expansion of the Engineering Department means more help to you for specially designed conveyors built to do a particular job. Why not write Henry Helling, Jr., Mathews Conveyor Company, Ellwood City, Pa., for full information on the Mathews line of profit-built equipment.

Cooler Profits



Many growers have already discovered that Stericooling peaches, berries, and vegetables quickly pays off in higher profits. A new Stericooler incorporating grower know-how has recently been introduced. The new machine has a greater cooling capacity and flow rate, yet uses less ice. Rated at 350 to 400 bushels per hour, the new machine will fit your requirements. The new unit has been reduced in size materially and is available without the ice tank and cooler tank. Why not get full information on this new machine—its easy—just write Florida Division, Food Machinery & Chemical Corp., Lakeland, Fla.

Worth Having

A new color catalog available to AMERICAN VEGETABLE GROWER readers is worth having. The brochure describes and pictures many types of small sprayers, dusters, planters, and flame burners which every grower needs. The booklet is well done and will be important to have. Why not write Ken Babcock, Universal Metal Products Co., for your copy. His address is Saranac, Mich.

Are You A Seed Salesman?

Add to your income by selling AMERICAN VEGETABLE GROWER. It's a logical combination for AMERICAN VEGETABLE GROWER will help your customers get the best results from the seed you sell them. *Make every call pay!* This means additional cash for you regardless of whether you sell a seed order or a subscription to AMERICAN VEGETABLE GROWER.

Write today for our liberal, nursery agents' plan. Address:

EDWARD MEISTER, General Manager

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Since ancient times the "Horn of Plenty" (or Cornucopia) has been the symbol of abundance and prosperity. But in addition to its symbolic value, this "Horn" also has many practical uses.

Brimming over with fruits, nuts and berries it makes a magnificent centerpiece. Filled with rolls and biscuits, it's a truly different bread basket. Hanging on your wall it's a colorful flower vase.

At this low price you'll want several . . . for yourself and for Holiday gifts.

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Name .....

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Send Cash, Check or Money Order At Our Risk AV-10

POTATO STORAGE

(*Continued from page 6*)

and for this reason an alternate floor plan of ducts and bin dividers is provided. In this case, the center alleyway may be filled last by inserting the alleyway duct in sections as the alley is filled. If the alley is not utilized some seasons, air-stop boards should be used to close the ends of the lateral ducts at the front of each bin.

In order to provide the maximum control over air movement, both ventilation and air recirculation, a multi-position damper has been included. The system allows any proportion of inside to outside air to be circulated.

WANTED—
SPRAY COMPATIBILITY INFORMATION

The 1956 edition of AMERICAN VEGETABLE GROWER'S spray compatibility chart will be available next month. Before it comes out, however, we would like to hear from growers and spraymen regarding changes or alterations they would recommend in the compatibility listings as they appeared in this year's chart.

Send the results of your spray compatibility experience, including any unusual discoveries in the performance of your sprays, to:

R. T. Meister,
Editor,
AMERICAN VEGETABLE GROWER,
Willoughby, Ohio.

This allows continuous ventilation even in sub-zero weather.

This arrangement is most ideal for even control of temperature and humidity. It also allows for constant gravity air movement when the fan is not operating by setting of the single damper.

Either axial-flow propeller or squirrel cage fans may be used. The system has been sized for movement of one cubic foot of air for each 150 pounds of potatoes. This calls for a fan delivering 7,000 cubic feet of air per minute against 0.25 inch static pressure, water gauge. With less than a full storage, less air may be circulated by the use of variable speed motors or changing shives if belted fans are used.

This plan provides for manual control throughout. It is possible and highly desirable to install thermostats, damper motors, and cycle repeaters for automatic control and reduce power costs by 30 per cent. THE END

GROWING CUCUMBERS FOR PICKLING

A NEW bulletin, "Growing Cucumbers for Pickling," by John A. Schoenemann and O. B. Combs, has been published by the University of Wisconsin. The 8-page booklet is well-illustrated with sketches showing correct procedures. Write to the Extension Service, College of Agriculture, Madison, and ask for Circular 503.

OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

BUSINESS OPPORTUNITIES

STRANGE "DRY" WINDOW CLEANER. Sells like wild. Replaces messy rags, liquids. Simply glide over glass. Samples sent on trial. KRISTEE 114, Akron, Ohio.

EARN UP TO $400 MONTHLY RAISING Angora, New Zealand rabbits. Plenty markets. Particulars free. WHITE'S RABBITRY, Jackson, Mich.

FOR SALE—EQUIPMENT AND SUPPLIES

SPEED YOUR VEGETABLE HARVESTING with a Cooe field conveyor. COOE HARVESTER CO., Metamora, Ohio.

GOOD USED FARM CONTAINERS—SPLINT handle baskets, bushels, boxes, hampers, bags, nailed and wirebound crates. Truckload or carlots. Call or write ZELVY BROS. CONTAINER CO., 2005 Orange Ave., Cleveland, Ohio.

FOR SALE BY ESTATE HALE SPRAYER used two seasons. Bargain. JIM HADDAN, 1441 Field Drive, Noblesville, Indiana.

FERTO-POTS, PLANT EATS POT. GET TWO or three crops per season, same ground. Millions used. 250 x 2" $4.50—300,000 $9.00 M. 250 x 2½" $5.00—300,000 $10.00 M. 250 x 3" $5.75—300,000 $11.50 M. 20% Collodial Phosphate $18.00 ton; Organic Fertilizers, Tankage, Manures. Literature free. ALLEN CO., Pittstown 25, N.J.

WHITE OAK CHARRED BARRELS—FRESHly emptied, 50 gallon. Prices $4.00 each. 10—$35.00, 20—$65.00. Write for prices on larger quantities. All f.o.b. Peoria, Illinois. Terms—money order or certified check with order. SHOOFF ORCHARDS PRODUCTS CO., 107 N. Washington St., Peoria, Illinois—Phone 4-4128.

MEDICAL

LATEST METHODS TREATING PILES, FISTula. Colon-Stomach disorders. Write for free book. McCLEARY CLINIC AND HOSPITAL, E145, Excelsior Springs, Mo.

MISCELLANEOUS

POTATO GROWERS — JUST PUBLISHED 1955 American Potato Yearbook. Contains vital information. Send $2.00. Complete volume 1950-55, $7.00. AMERICAN POTATO YEARBOOK, Box 3, 8 Elm Street, Westfield, New Jersey.

MAKE TRACTOR YOU'LL LIKE, INEXPENsive, practical, few simple changes, from discarded automobile, three speeds, reverse. Printed details—send four dimes. TRACTORMAN, Box 1446, Zephyrhills, Florida.

MAILING LISTS—100,000 CAREFULLY SElected names in the Agricultural Field. Individual lists of Potato Growers, Tomato Growers, Corn Growers, and many others. Ideal for firms wishing to contact leading growers and dealers. For details write: MACFARLAND CO., Box 2, 8 Elm St., Westfield, N. J.

BUY WHOLESALE, SAVE UP TO 80% ON brand new, name brand merchandise. Free information. ALANNE, Box 135, Watertown, Conn.

500 GUMMED STICKERS PRINTED WITH your name and address—65c. ARTPRINT, Box 166, Sheboygan 11, Wisconsin.

BUY SURPLUS FARM TOOLS, MACHINery feed, jeep, tractor, hundreds others direct from U.S. Government at tremendous savings. List $1.00. BOX 169 AAG, East Hartford 8, Conn.

TOMATO GROWERS — JUST PUBLISHED 1955 American Tomato Yearbook. Crammed with important facts. Send $2.00. Complete volume 1949-55, $7.00. AMERICAN TOMATO YEARBOOK, Box No. 3, 8 Elm Street, Westfield New Jersey.

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Send 10c for trial sample & copy of illustrated magazine "Life from Soil"

What Sells Vegetables—Eye Appeal or Taste Appeal?

SOME VEGETABLE crops are experiencing lower per capita consumption rates. Yet the Census Bureau reports new families are being formed at the rate of 900,000 per year now, and consumer incomes are as high as ever.

With these two factors in favor of increased demand for vegetable foods, it is a paradox that some vegetables are slipping in popularity. Our industry now often finds itself in a dilemma. How can we get people to eat more vegetables?

The answer to this is not simple, but Dr. Ora Smith, of Cornell University's department of Vegetable Crops, recently touched upon one important factor, quality. He was discussing the consumption of potatoes, which has decreased from 172 pounds per person in 1923 to a little less than 100 pounds per person now. He further points out that just during the past six years consumption has dropped 21 pounds per person, or the equivalent of a decrease of 57 million bushels per year for the country. A drop in consumption of a front-ranking vegetable like this has far-reaching consequences upon the growing industry.

What caused the drop? Dr. Smith points out that during recent years we have paid more attention to developing potato varieties with eye appeal than we have to developing potatoes with really good eating qualities. This he feels has contributed greatly to the decline in potato consumption.

So, perhaps the first step in reversing this downward trend is to present consumers with potato varieties that have superior cooking and eating qualities. In addition, as Professor Smith suggests, we will have to tempt the housewife with more "easy-to-prepare - for - the - table" potatoes. Among these are pre-peeled potatoes, canned potatoes, frozen French fries, dehydrated mashed potatoes, and potato chips and sticks.

Such an approach to some of our over-production and under-consumption problems is logical. A vegetable's quality is its biggest and best salesman. Just recently one of our editors visited a potato grower in Ohio. He put this question to him, "Which variety of potato do you use in your own kitchen?"

He replied quickly, "Cobbler."

Why was this? Because that variety was the best-tasting and best-cooking potato on his farm. It wasn't the smoothest and best-looking potato, but it *tasted* the best.

What did he grow for market? Katahdin covered most of his acreage. It is a large, smooth variety that is relatively easy to grow. We do not mean to say that one potato variety is so much superior to another. We mention this incident to illustrate this vital point: we need to place more emphasis on vegetable and potato varieties that have really superior internal qualities.

This is not the only answer to our marketing and consumption problems. It can be a small beginning in the big job of winning back the vegetable market.

One of the Secrets of High Production

AFTER reading the article in this issue on, "Vegetables Have Hard Year in Northeast," the grower of peppers and tomatoes in particular will find it worth while to reread the editorial in the August issue entitled, "One Likes It Hot—the Other Cold."

Taking into consideration the unprecedented heat and rainfall in the Northeast this past summer, the reasons for some of the difficulties—such as blossom end rot and cracking of the fruit—experienced by growers of these two crops are made clear in the editorial.

In both tomatoes and peppers, as pointed out in the editorial, high temperature with fluctuating soil moisture conditions frequently results in blossom end rot, a trouble thought to be associated with a water deficiency in the plant. The plants pull some of the water out of the fruits from the blossom end and cells in that region disintegrate.

The editorial states further: The problems of blossom end rot, radial cracking at the stem end, and concentric cracking around the tomato, are frequently related to the variety and its ability to withstand fluctuating moisture conditions. In many seasons these problems can be partially avoided by proper irrigation. However, the surest way of avoiding cracking and blossom end rot troubles is to maintain a favorable soil structure for deep rooting.

In this connection it is worthwhile to note the statement in the article in this issue on northeastern conditions that while the tomato crop in many New Jersey areas was a failure, in other areas in the Garden state growers had as high as 10 to 14 tons per acre, and that the secret to this phenomenon was well-drained land in good physical condition.

VEGETABLE CONVENTION

"I'll tell you what time it is. It's time to get up!"

Irrigation Pays

PORTABLE irrigation systems have proved their worth in good soils in Louisiana, says Kenneth A. Koch, assistant engineer with Louisiana State University's extension service. Many irrigation systems in the state practically paid for themselves last year, he says.

Weather bureau records show that during the past 24 years Louisiana has experienced an average of six and one-half drought periods each year during which crops have needed water. A drought period is two weeks or more in which less than a quarter inch of rain has fallen.

Coming Next Month

Convention Issue

- VGAA's 47th Convention Program
- State Queens Make National Debut
- Ohio's Ferris Owen Reports on Vegetable Production in Russia
- Snowball Effects of Good Farm Management
- Northern Ohio's Famous Greenhouse Area

CELERY RESEARCHER WINS VAUGHAN AWARD

A RESEARCH PAPER on control of blackheart of celery won the 1955 Vaughan award. The annual cash award and medal, sponsored by the Vaughan Seed Company, of Chicago, went to Dr. Carroll M. Geraldson, of the University of Florida's Gulf Coast Experiment Station at Bradenton. It was given for the best paper published in the 1954 Proceedings of the American Society for Horticultural Science.

C. M. Geraldson

Geraldson's paper told how blackheart of celery can be completely controlled by applications of a calcium solution to the heart of the plant.

Blackheart disease has occurred in nearly every celery growing area, but is most prevalent in warm areas such as Florida and California. In Florida alone, annual losses have been estimated at a million dollars. In Utah 60 per cent of individual plantings have been lost, and similar losses have been reported in Wisconsin and New Jersey. In the lower Rio Grande Valley of Texas, blackheart losses were so great that growers were forced to stop growing celery.

ARIZONA

(*Continued from page 9*)

cooling has proved efficient in reducing costs of handling lettuce.

A new cantaloup variety, Arizona Sunrise, has been developed by the university, with particular reference to earliness and superior eating quality. Promising strains of cantaloup show resistance to crown blight, a rather serious disease, the cause of which is not known. The USDA is co-operating with the university in an expanding program in relation to this disease.

There is underway a building program at the recently acquired 160-acre experimental farm in the Yuma Valley. This program will provide additional facilities, laboratories, and offices for vegetable research. Production of vegetables is now being extended up the lower Gila River Valley known as the Wellton-Mohawk Division which extends east of Yuma 20 to 50 miles. This expanding irrigation project, supplied with Colorado River water, will bring under irrigation 75,000 acres when completed. The Southern Pacific Railroad provides potential shipping facilities throughout this new development. THE END

A CHRISTMAS GIFT

...*for YOU*

As a special Christmas gift to readers, AMERICAN VEGETABLE GROWER is offering books on vegetable growing and allied subjects at a discount of 10% on all orders for more than one book.

Here is an opportunity to build up your Library—at reduced cost. Here, too, is an opportunity to order books for gifts at a reduced price. We can think of no better gift for a vegetable grower friend than a book on his favorite subject.

Use the handy form below when ordering. If the list does not include the books you want, let us know. Our offer applies on *all* books on vegetable growing subjects.

- VEGETABLE PRODUCTION AND MARKETING. By Paul Work and John Carew. 537 pages—$4.72

General chapters in the new second edition of this practical book cover culture, harvesting, storage, and marketing. Individual chapters cover the major crops including potatoes.

- DESTRUCTIVE AND USEFUL INSECTS. By Metcalf, Flint, and Metcalf. 1,071 pages—$11.00

A completely revised and up-to-date edition of this famous book. Valuable descriptions and photographs of all vegetable insects.

- THE HOW-TO BOOK ON STRAWBERRIES. By Robin Wyld. 112 pages—$1.50

Written for the layman and illustrated with cartoons showing how to plant, tend, and harvest strawberries.

- INSECTS. By H. S. Zim and C. Cottam. 157 pages—$1.00

A handy guide to familiar American insects. Beautiful drawings of 225 insects in full color.

- HOW TO MAKE A LIVING IN THE COUNTRY. By Fred Tyler—96 pages—$1.00

The eight pages on roadside marketing are worth the price of the book.

- VEGETABLE GROWING. By James E. Knott. 358 pages—$5.00

General principles of equipment, seed supply, soil preparation and fertilization, irrigation, insect and disease control, storage, and marketing are covered in the new Fifth edition. The last half of the book is devoted to detailed discussions on the proper production of 71 different cool and warm season crops.

- SWEET CORN. By Walter A. Huelsen. 409 pages—$10.50

A presentation and evaluation of all the facts from breeding and seed production to the quality and nutritive value of the processed sweet corn.

- HARNESSING THE EARTHWORM. By Thomas J. Barrett. 184 pages—$2.50

A practical inquiry into soil-building, soil-conditioning, and plant nutrition through the action of earthworms, with instructions for intensive propagation and use of domesticated earthworms into biological soil-building.

- SUPPLEMENTAL IRRIGATION FOR EASTERN UNITED STATES. By Harry Rubey. 209 pages—$3.50

This book discusses where supplemental irrigation is advisable; how to plan, install, and operate a satisfactory system; and what to expect from it.

- GROWING FRUIT AND VEGETABLE CROPS. By T. J. Talbert. 350 pages—$4.50

Easy-to-follow fundamentals which influence and determine successful fruit and vegetable culture are set forth in this book. Supplemental irrigation is given special consideration.

- THE CARE AND FEEDING OF GARDEN PLANTS. 184 pages—$3.00

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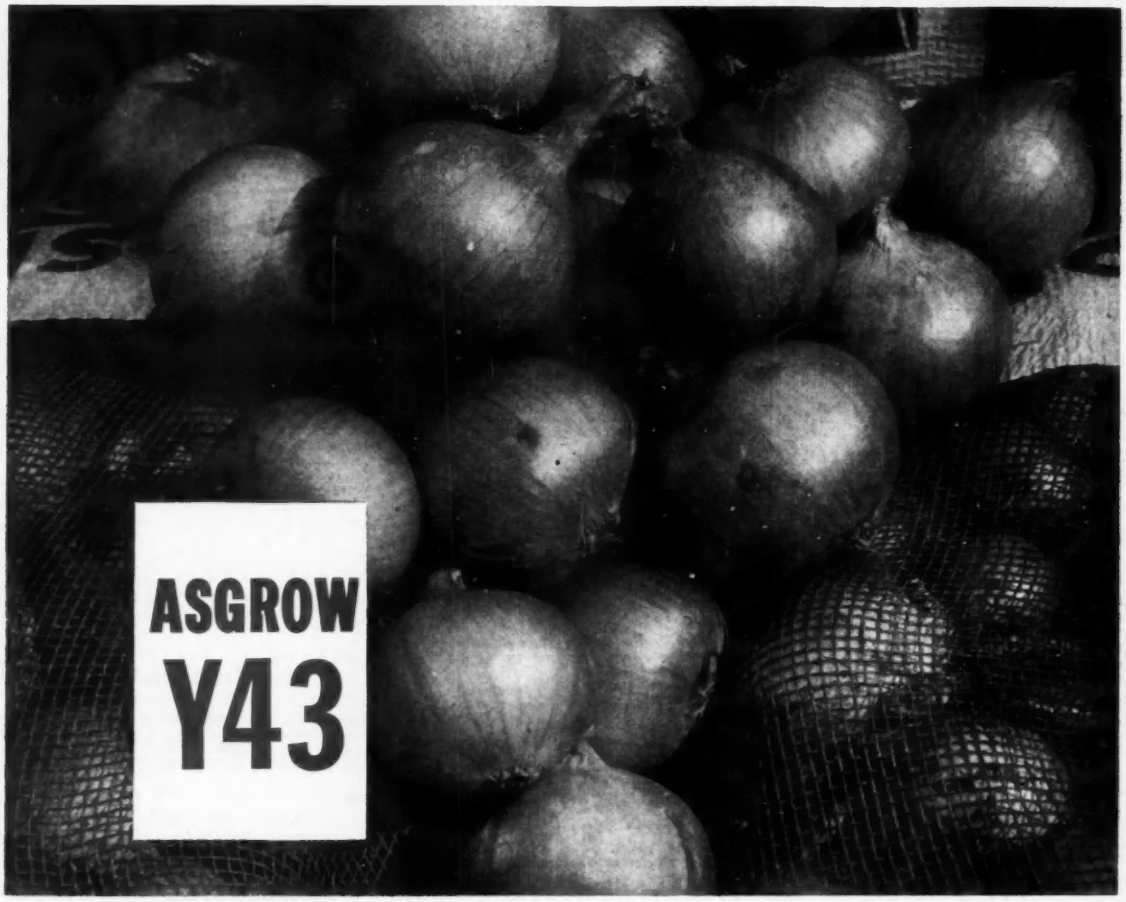

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